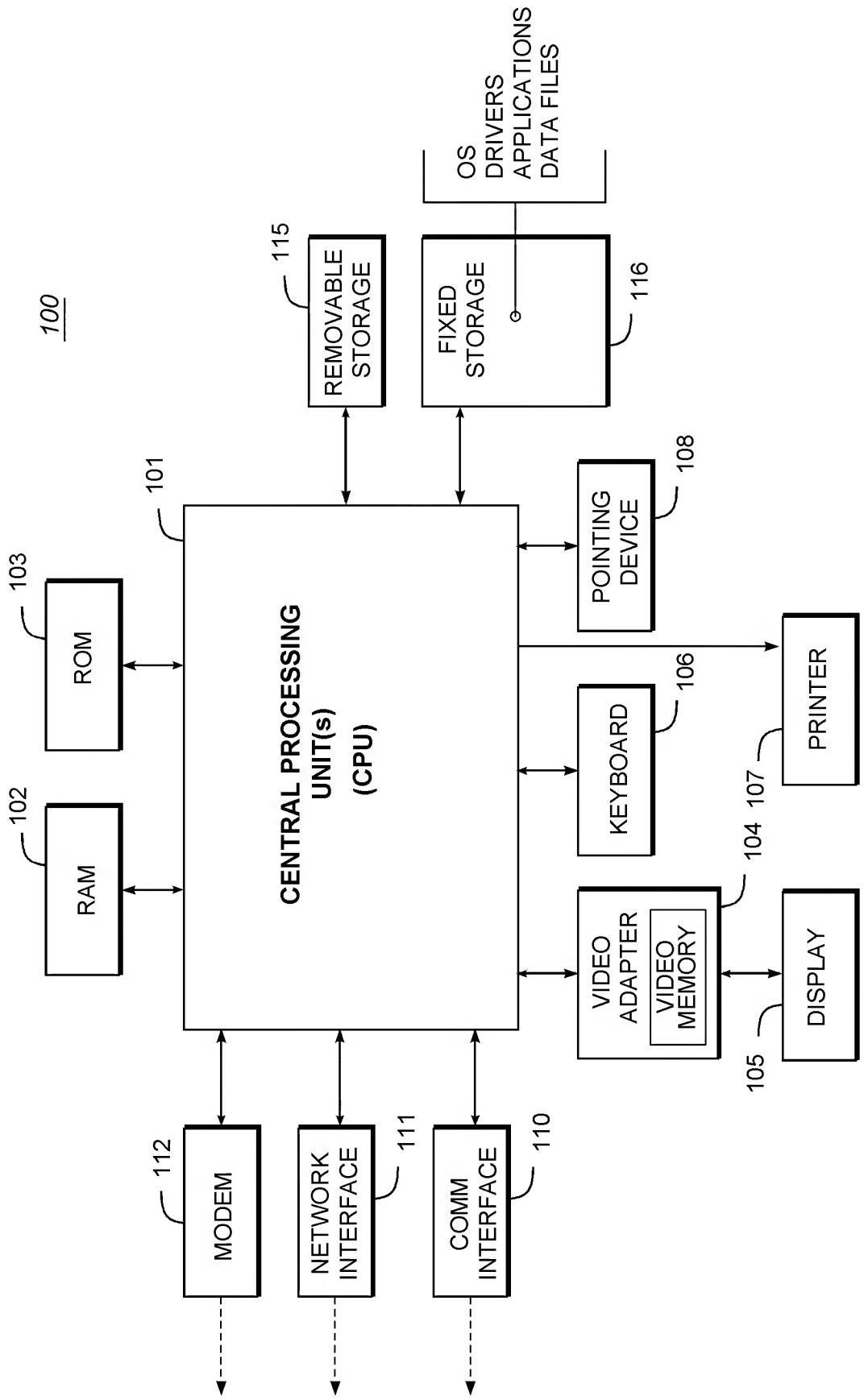


FIG. 1
(PRIOR ART)

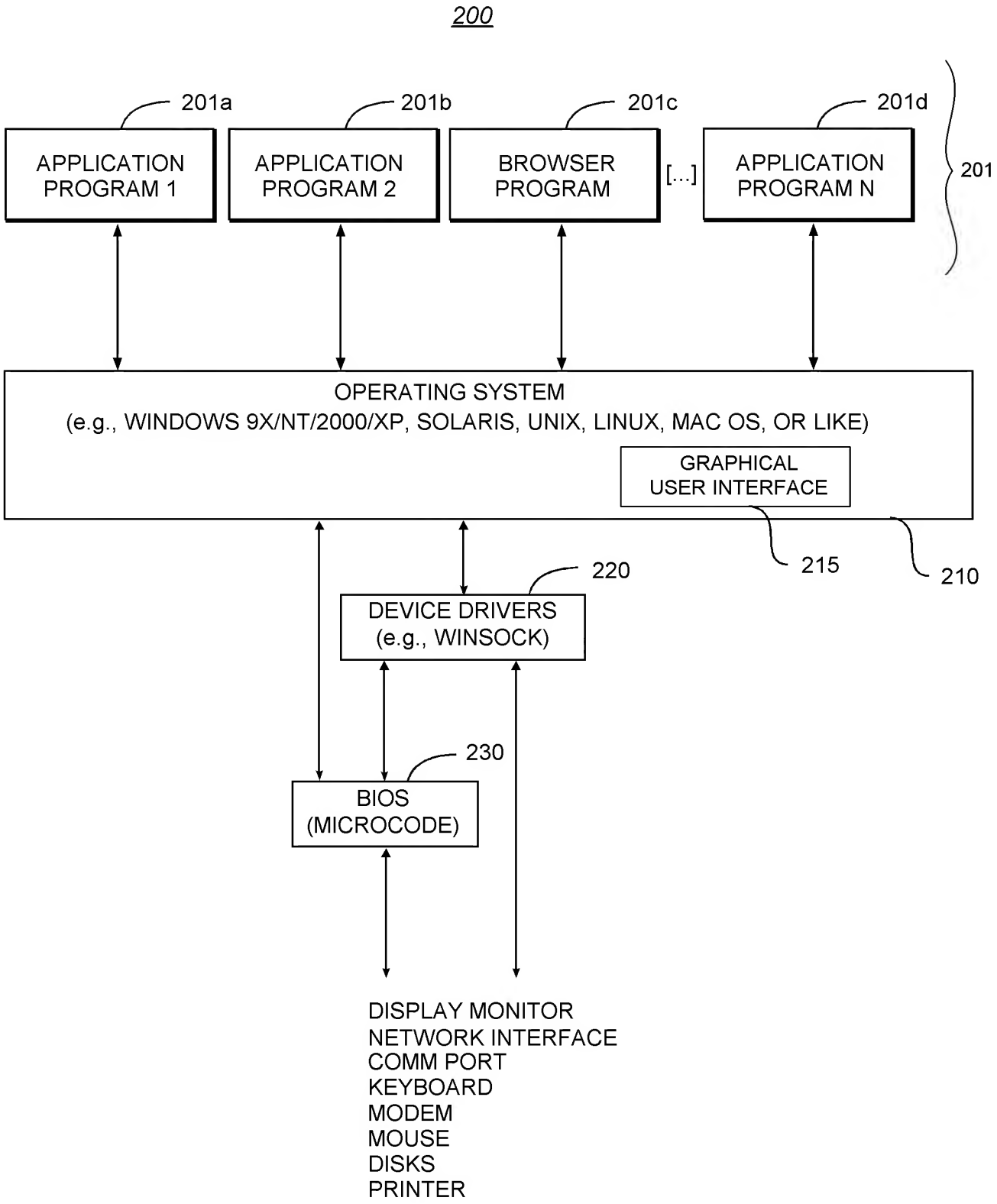

200
201a
201b
201c
201d
APPLICATION PROGRAM 1
APPLICATION PROGRAM 2
BROWSER PROGRAM
[...]
APPLICATION PROGRAM N
201
OPERATING SYSTEM
(e.g., WINDOWS 9X/NT/2000/XP, SOLARIS, UNIX, LINUX, MAC OS, OR LIKE)
GRAPHICAL USER INTERFACE
215
210
220
DEVICE DRIVERS
(e.g., WINSOCK)
230
BIOS
(MICROCODE)
DISPLAY MONITOR
NETWORK INTERFACE
COMM PORT
KEYBOARD
MODEM
MOUSE
DISKS
PRINTER

FIG. 2

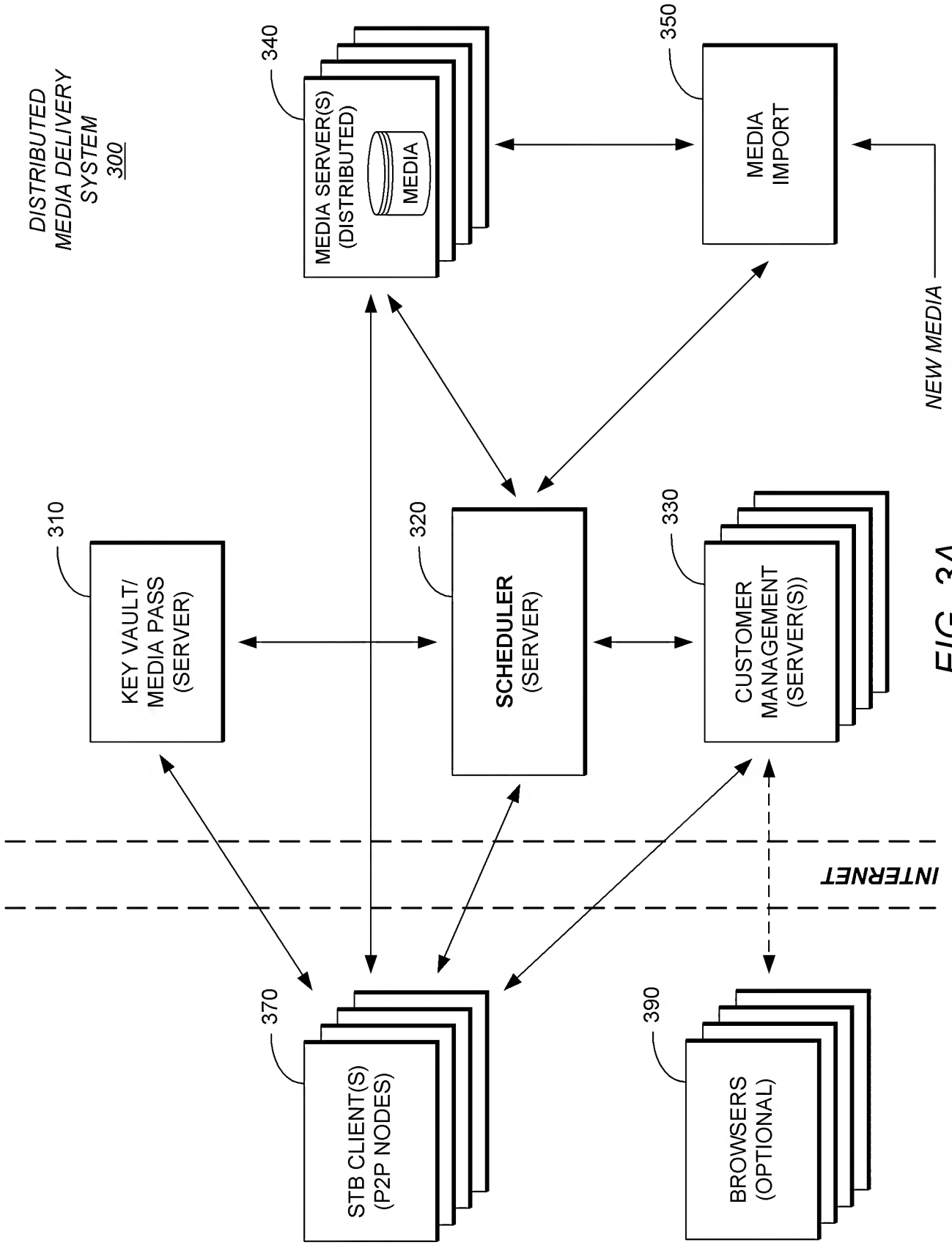

DISTRIBUTED MEDIA DELIVERY SYSTEM 300
340
MEDIA SERVER(S) (DISTRIBUTED)
MEDIA
350
MEDIA IMPORT
NEW MEDIA
310
KEY VAULT/ MEDIA PASS (SERVER)
320
SCHEDULER (SERVER)
330
CUSTOMER MANAGEMENT (SERVER(S))
INTERNET
370
STB CLIENT(S) (P2P NODES)
390
BROWSERS (OPTIONAL)

FIG. 3A

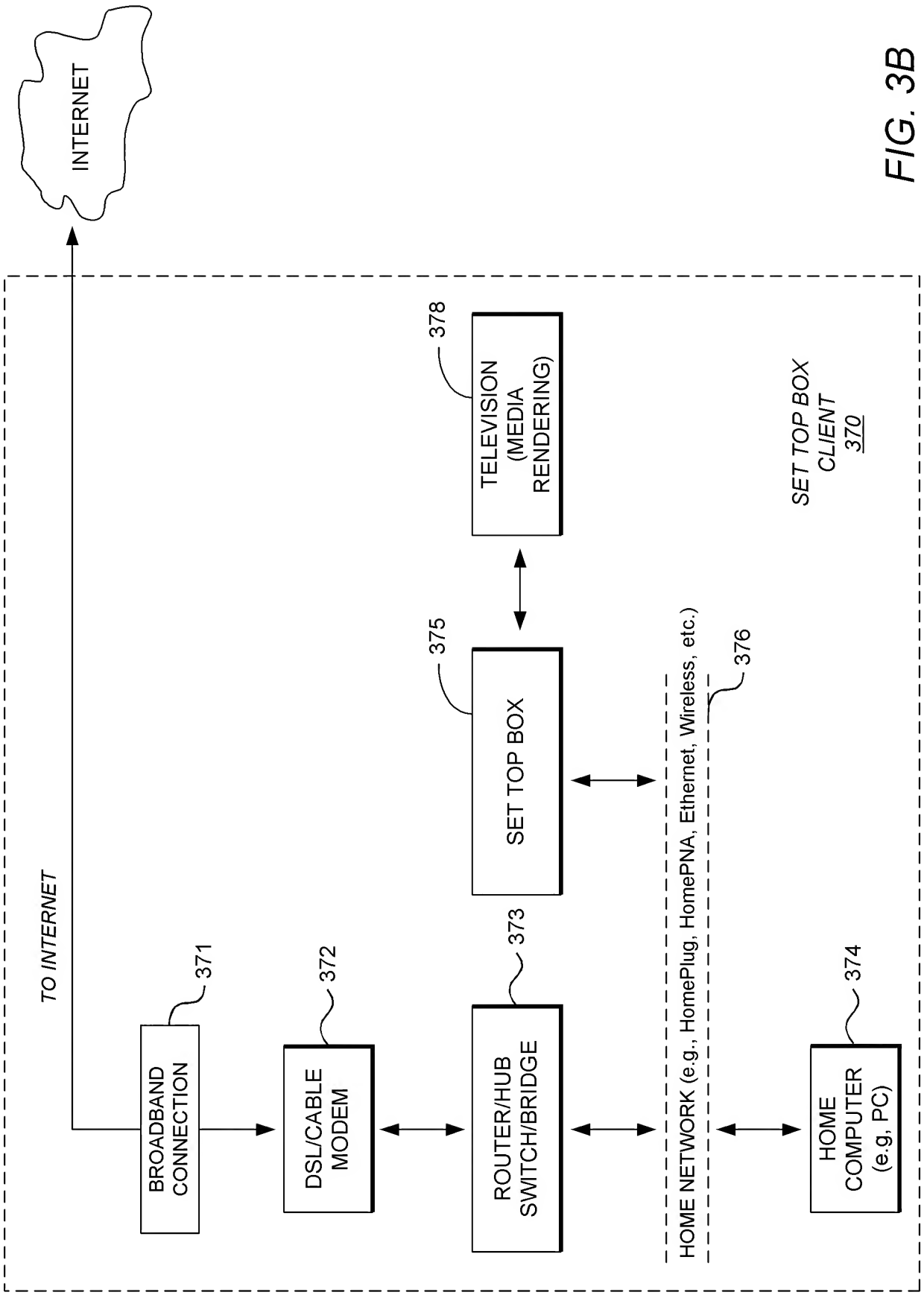

INTERNET
TO INTERNET
BROADBAND CONNECTION
371
DSL/CABLE MODEM
372
ROUTER/HUB SWITCH/BRIDGE
373
HOME COMPUTER (e.g, PC)
374
SET TOP BOX
375
HOME NETWORK (e.g., HomePlug, HomePNA, Ethernet, Wireless, etc.)
376
TELEVISION (MEDIA RENDERING)
378
SET TOP BOX CLIENT 370

FIG. 3B

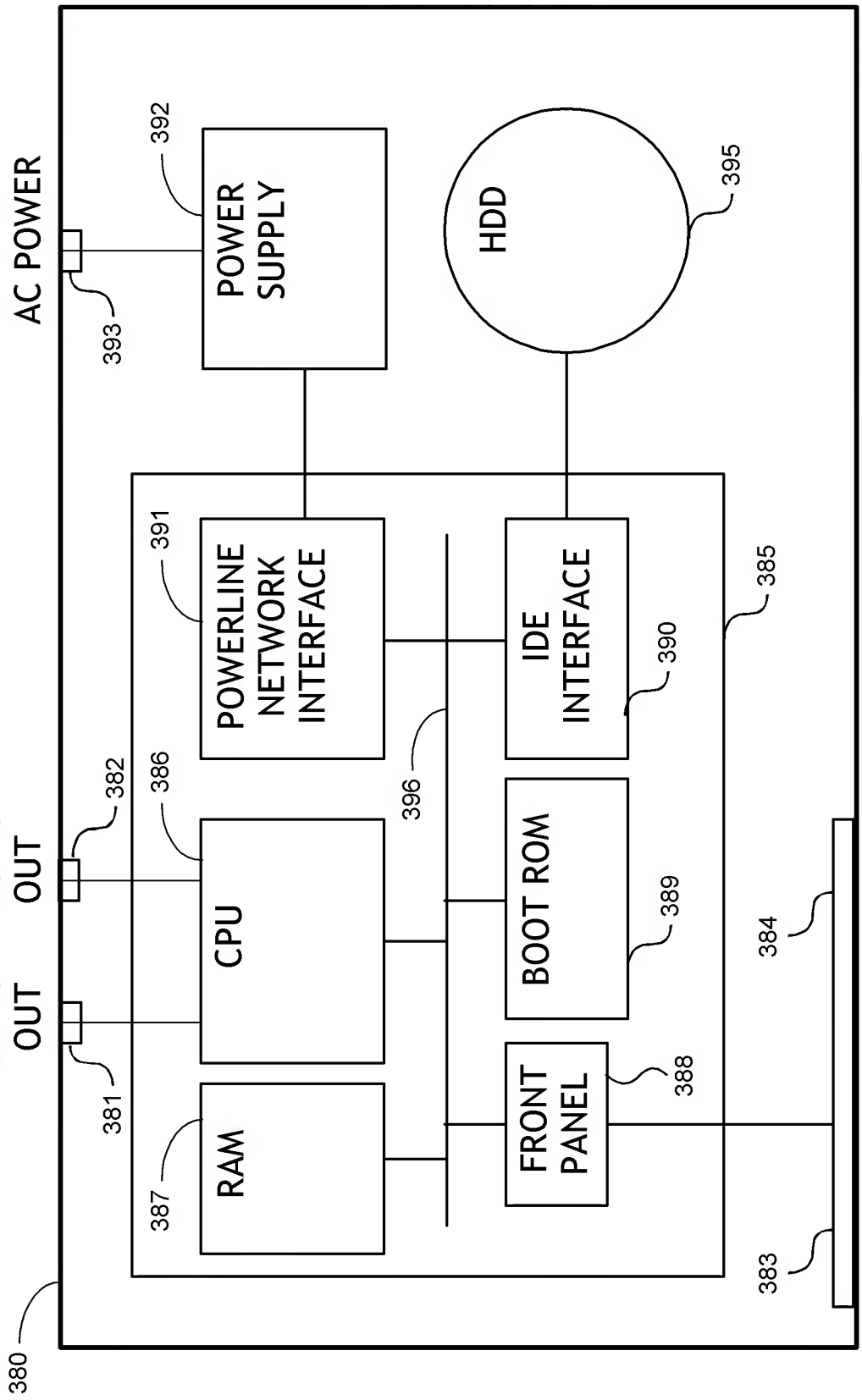

375
AC POWER
393
392
POWER SUPPLY
HDD
395
391
POWERLINE NETWORK INTERFACE
IDE INTERFACE
390
385
396
382
386
AUDIO OUT
VIDEO OUT
381
CPU
BOOT ROM
389
384
IR RECEIVER
387
RAM
FRONT PANEL
388
383
LED STATUS INDICATORS
380

FIG. 3C

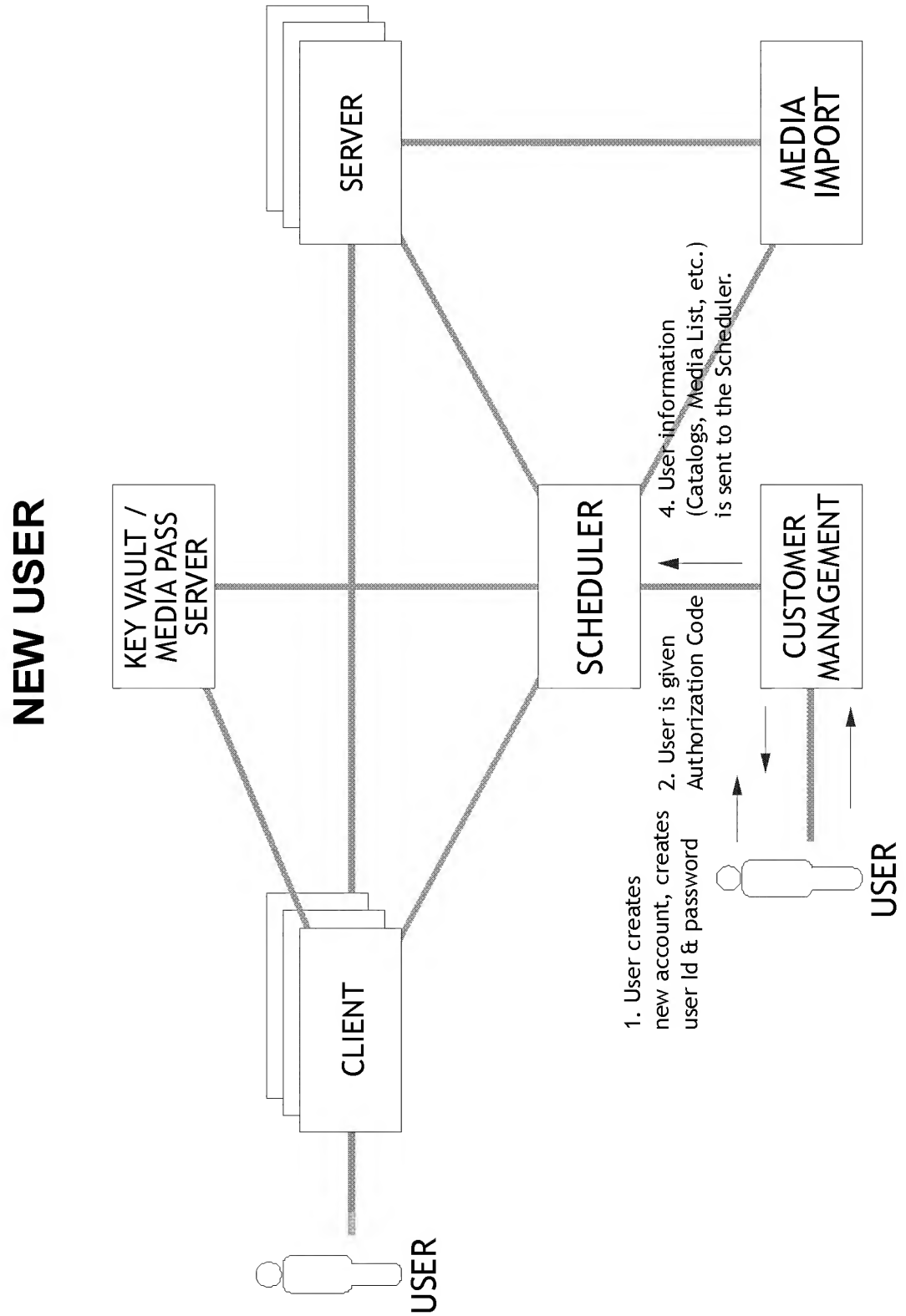

NEW USER
KEY VAULT / MEDIA PASS SERVER
SERVER
MEDIA IMPORT
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
USER
USER
1. User creates new account, creates user Id & password
2. User is given Authorization Code
4. User information (Catalogs, Media List, etc.) is sent to the Scheduler.
3. User selects Catalogs and creates Media List. (Also enters Client ID if purchasing from a retail outlet)

FIG. 4

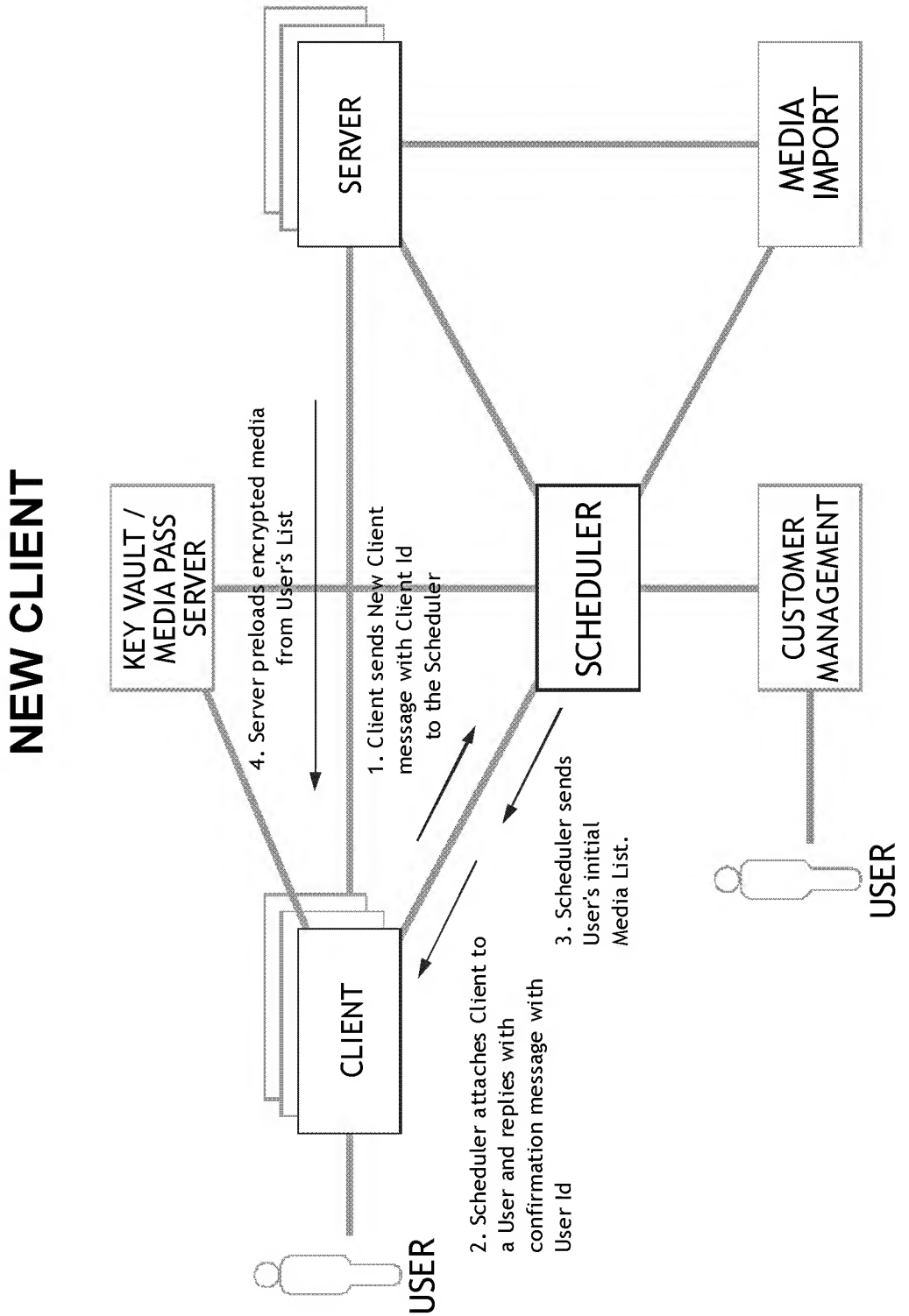

NEW CLIENT
SERVER
MEDIA IMPORT
KEY VAULT / MEDIA PASS SERVER
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
USER
USER
4. Server preloads encrypted media from User's List
1. Client sends New Client message with Client Id to the Scheduler
2. Scheduler attaches Client to a User and replies with confirmation message with User Id
3. Scheduler sends User's initial Media List.

FIG. 5

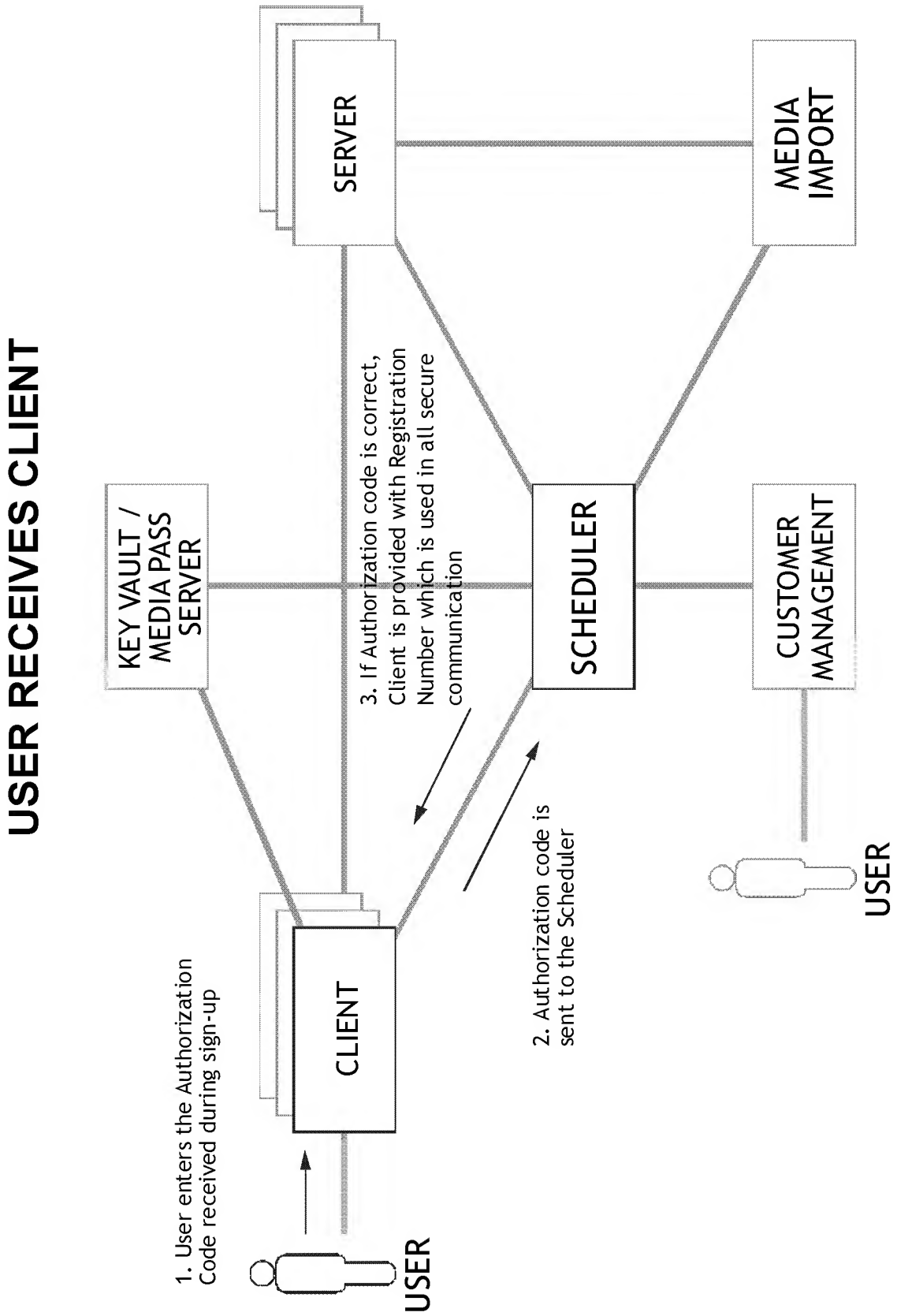

USER RECEIVES CLIENT
SERVER
MEDIA IMPORT
KEY VAULT / MEDIA PASS SERVER
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
1. User enters the Authorization Code received during sign-up
3. If Authorization code is correct, Client is provided with Registration Number which is used in all secure communication
2. Authorization code is sent to the Scheduler
USER
USER

FIG. 6

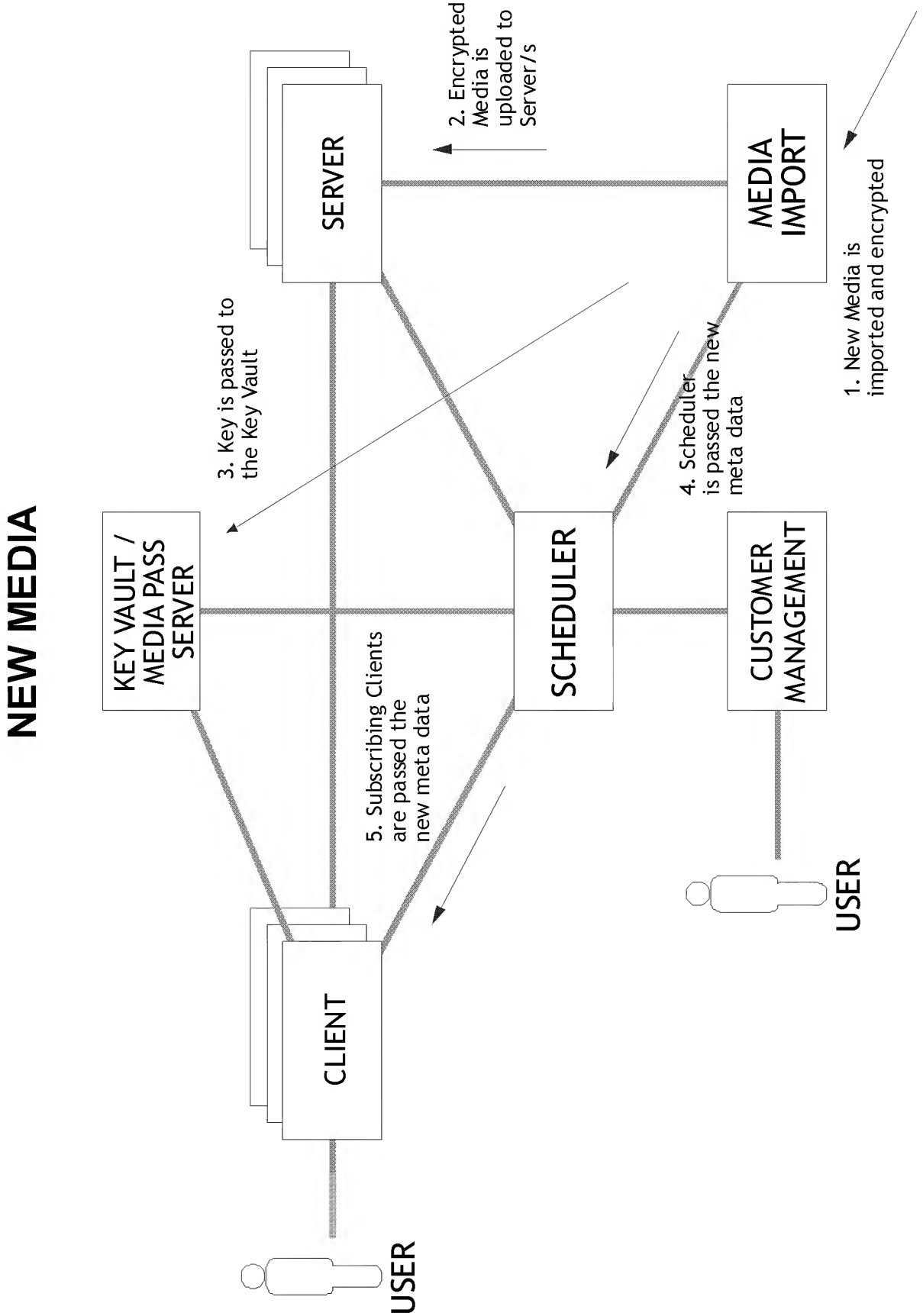

NEW MEDIA
SERVER
MEDIA IMPORT
KEY VAULT / MEDIA PASS SERVER
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
USER
USER
1. New Media is imported and encrypted
2. Encrypted Media is uploaded to Server/s
3. Key is passed to the Key Vault
4. Scheduler is passed the new meta data
5. Subscribing Clients are passed the new meta data

FIG. 7

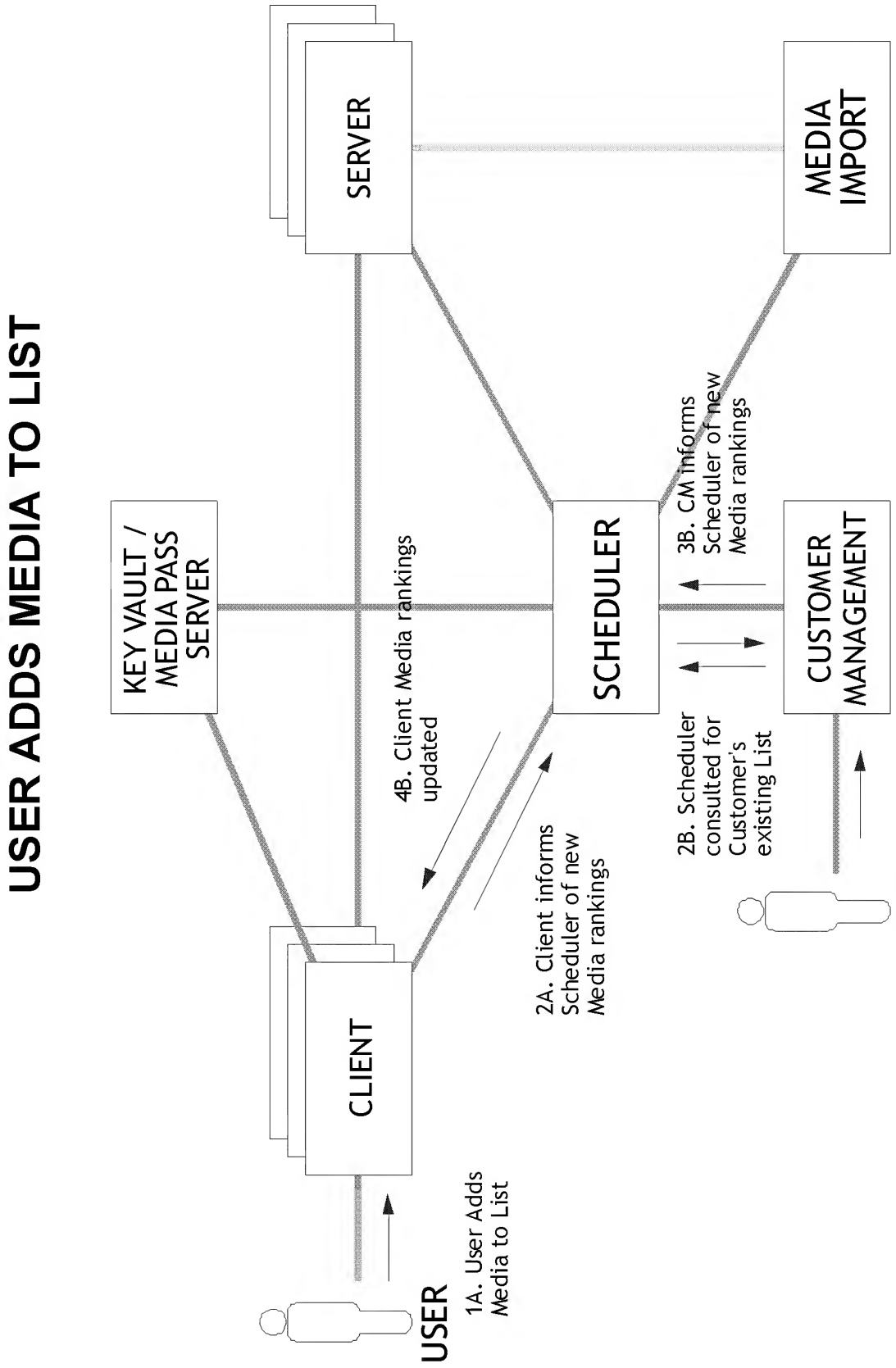

USER ADDS MEDIA TO LIST
SERVER
MEDIA IMPORT
KEY VAULT / MEDIA PASS SERVER
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
4B. Client Media rankings updated
3B. CM informs Scheduler of new Media rankings
2A. Client informs Scheduler of new Media rankings
2B. Scheduler consulted for Customer's existing List
1A. User Adds Media to List
1B. User logs on with id and password, adds Media to List
USER
USER

FIG. 8A

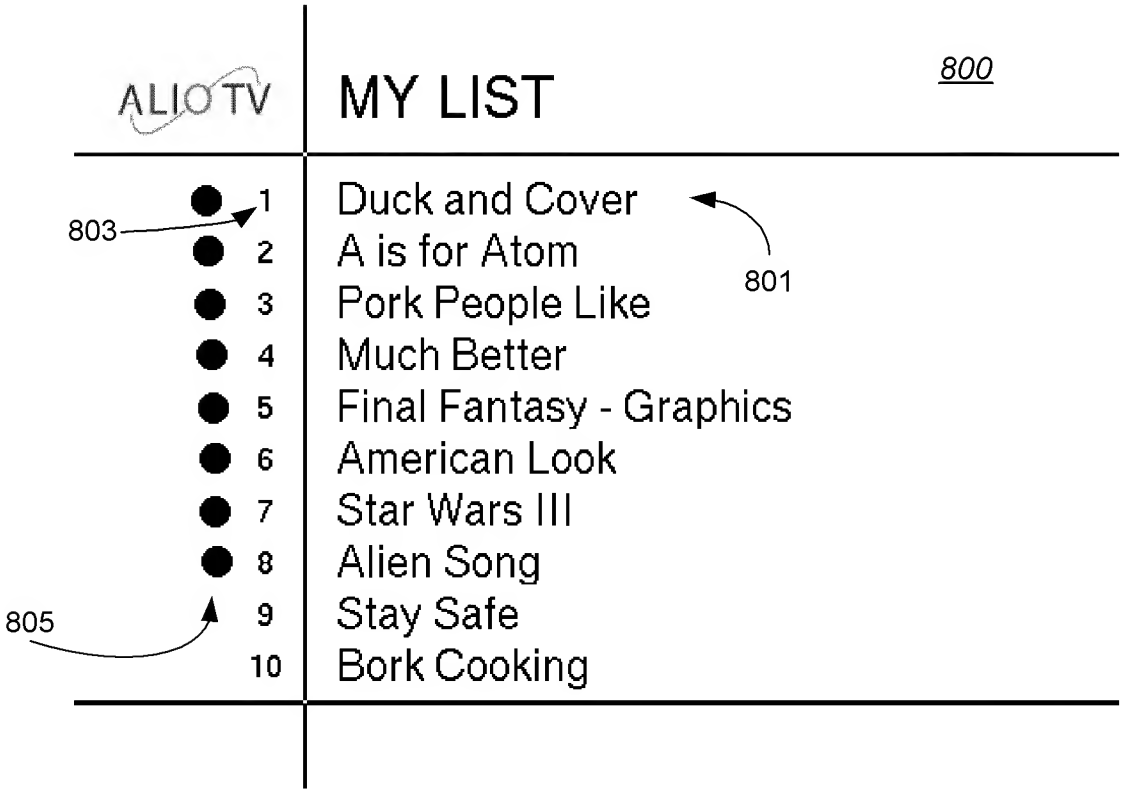

ALIO TV
MY LIST
800
803
801
805
1 Duck and Cover
2 A is for Atom
3 Pork People Like
4 Much Better
5 Final Fantasy - Graphics
6 American Look
7 Star Wars III
8 Alien Song
9 Stay Safe
10 Bork Cooking

FIG. 8B

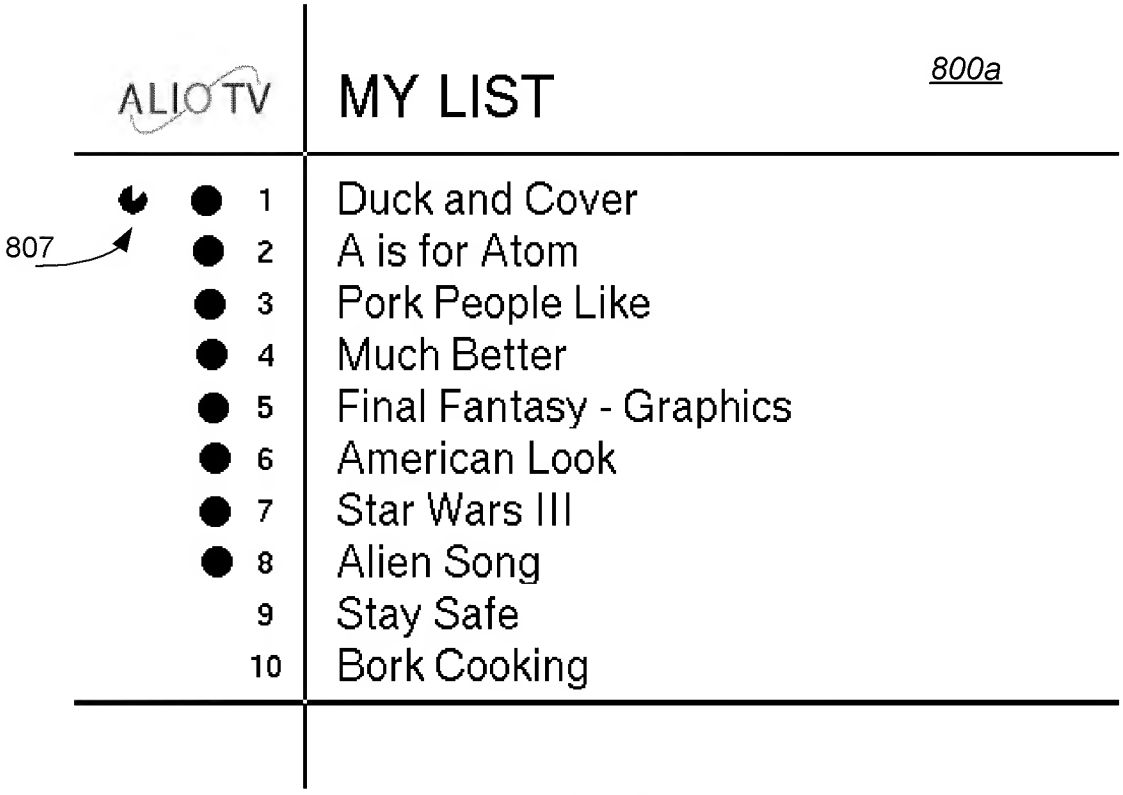

ALIO TV
MY LIST
800a
807
1 Duck and Cover
2 A is for Atom
3 Pork People Like
4 Much Better
5 Final Fantasy - Graphics
6 American Look
7 Star Wars III
8 Alien Song
9 Stay Safe
10 Bork Cooking

FIG. 8C

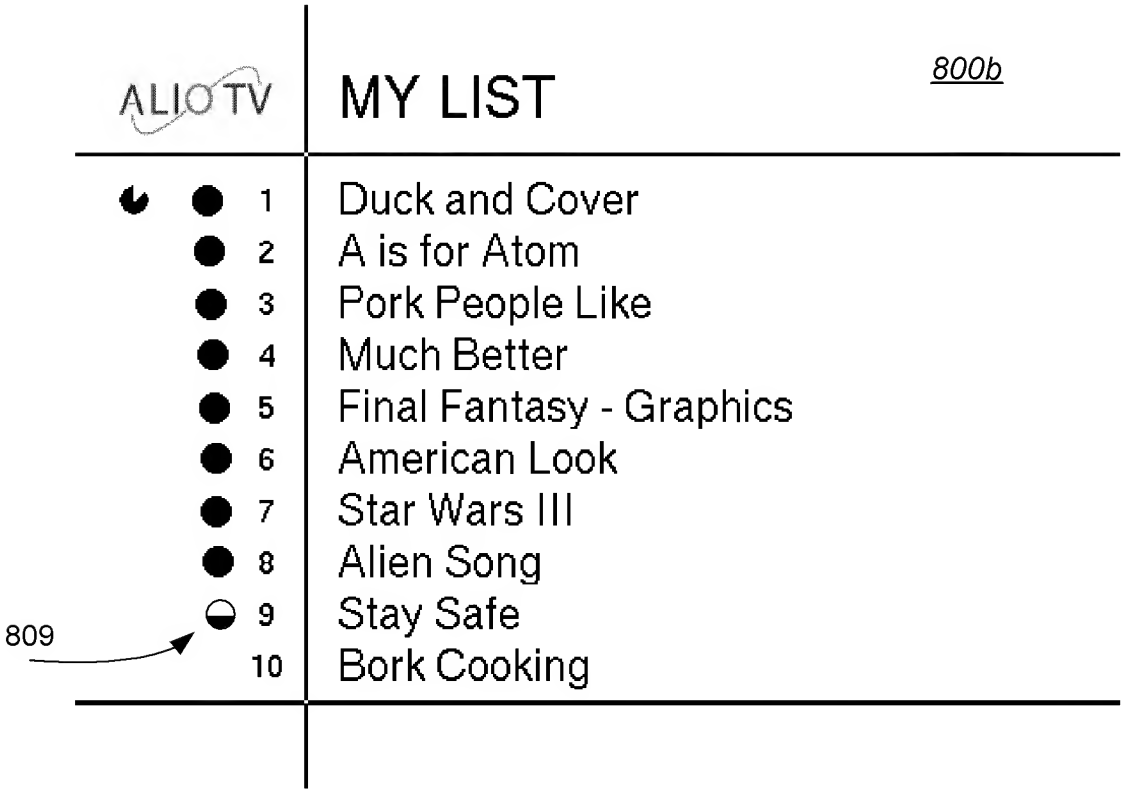

ALIO TV
MY LIST
800b
1 Duck and Cover
2 A is for Atom
3 Pork People Like
4 Much Better
5 Final Fantasy - Graphics
6 American Look
7 Star Wars III
8 Alien Song
9 Stay Safe
10 Bork Cooking
809

FIG. 8D

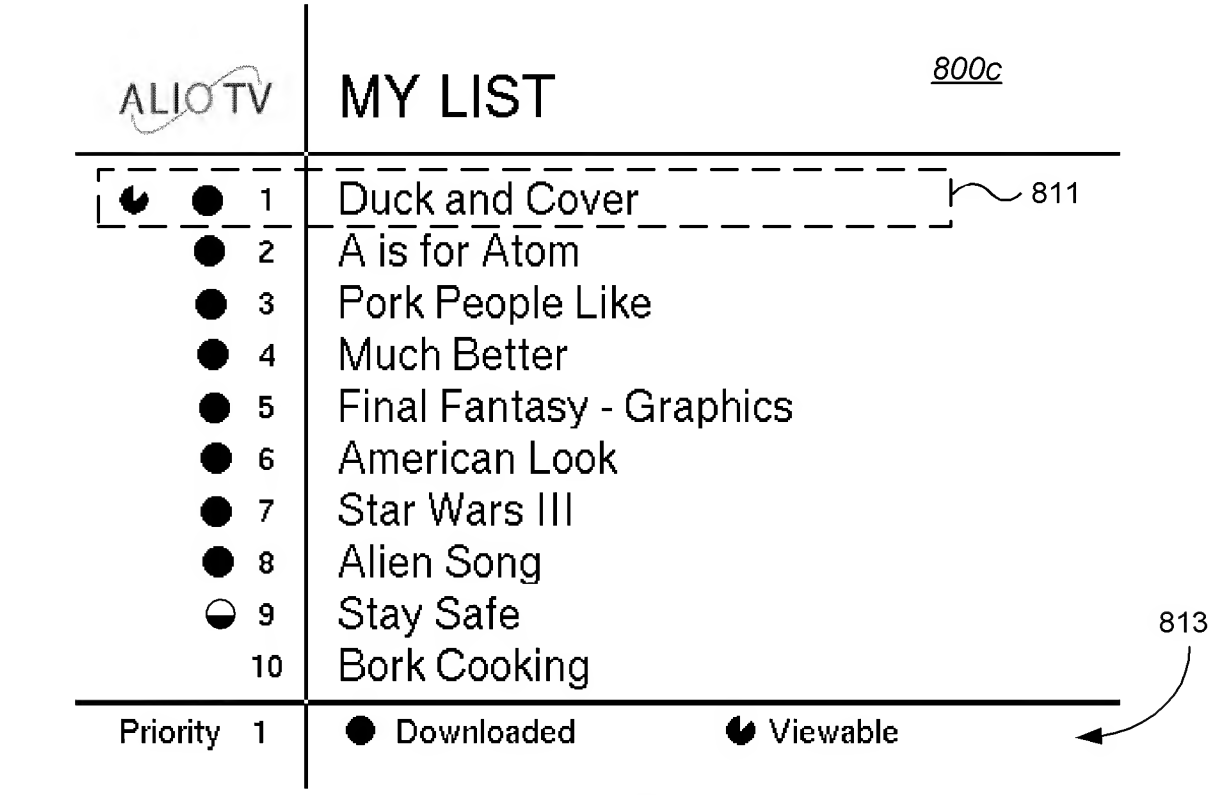

ALIO TV
MY LIST
800c
1 Duck and Cover
811
2 A is for Atom
3 Pork People Like
4 Much Better
5 Final Fantasy - Graphics
6 American Look
7 Star Wars III
8 Alien Song
9 Stay Safe
10 Bork Cooking
813
Priority 1
Downloaded
Viewable

FIG. 8E

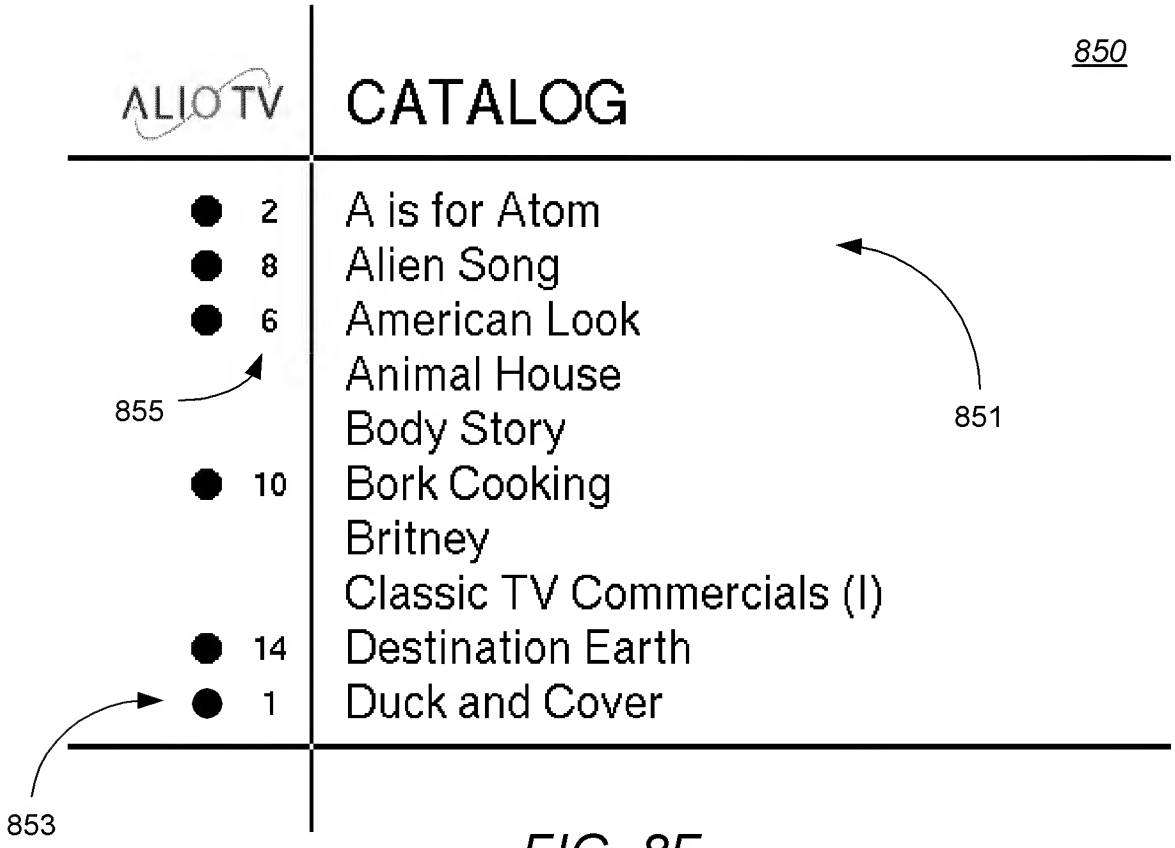

850
ALIO TV
CATALOG
2 A is for Atom
8 Alien Song
6 American Look
Animal House
Body Story
10 Bork Cooking
Britney
Classic TV Commercials (I)
14 Destination Earth
1 Duck and Cover
851
853
855

FIG. 8F

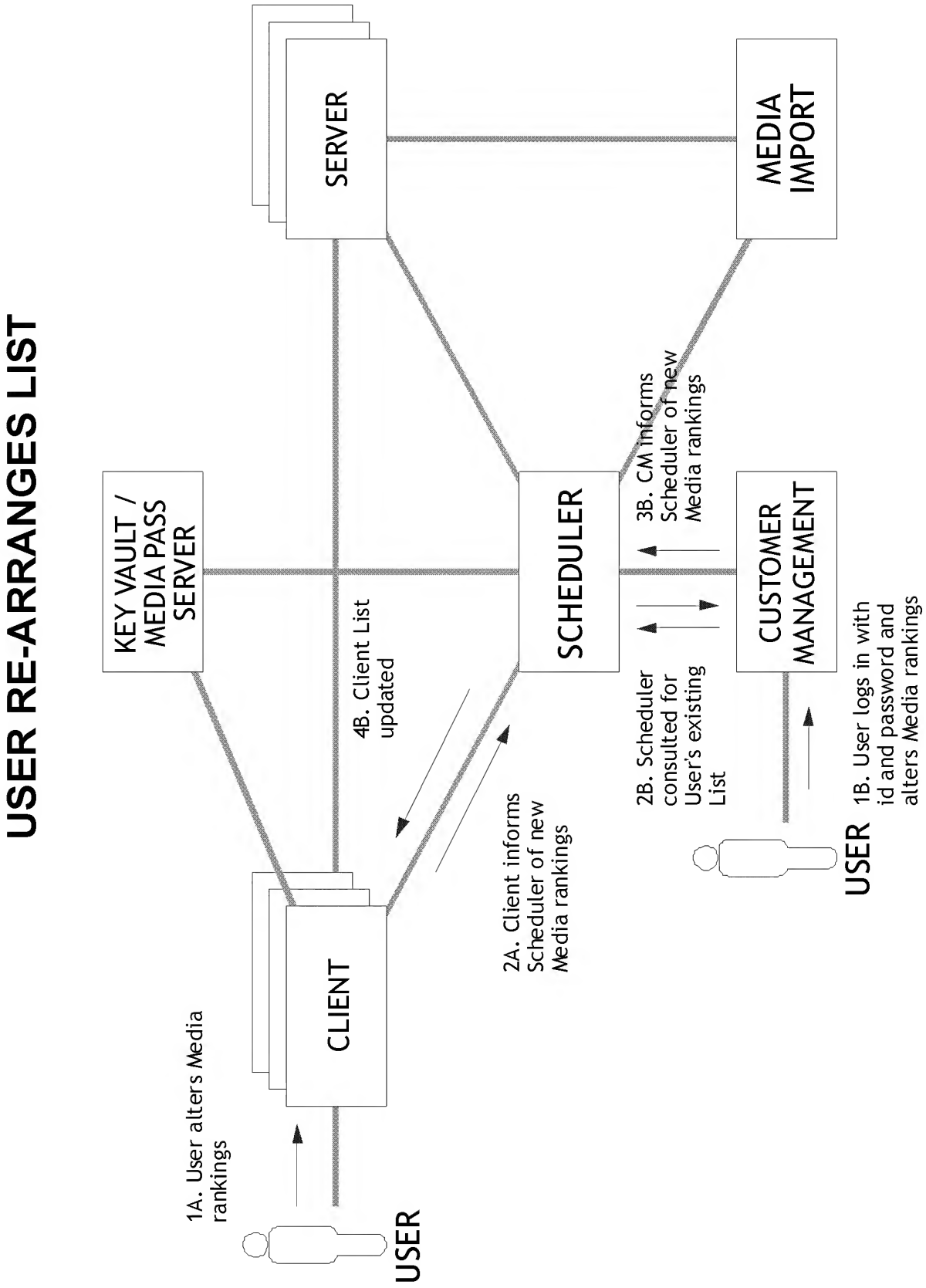

USER RE-ARRANGES LIST
SERVER
MEDIA IMPORT
KEY VAULT / MEDIA PASS SERVER
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
USER
USER
1A. User alters Media rankings
4B. Client List updated
2A. Client informs Scheduler of new Media rankings
2B. Scheduler consulted for User's existing List
3B. CM informs Scheduler of new Media rankings
1B. User logs in with id and password and alters Media rankings

FIG. 9

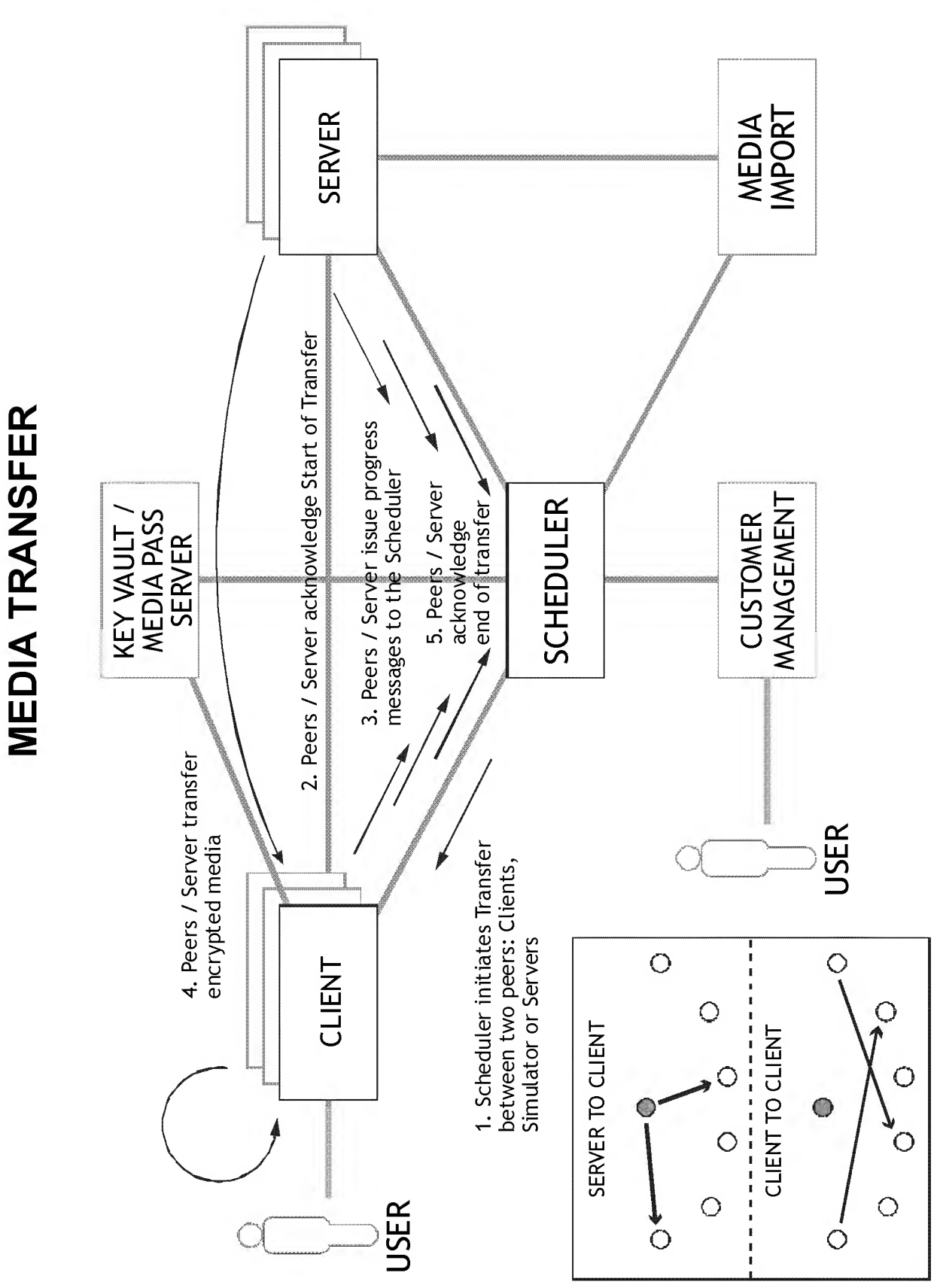

MEDIA TRANSFER
SERVER
MEDIA IMPORT
KEY VAULT / MEDIA PASS SERVER
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
USER
USER
2. Peers / Server acknowledge Start of Transfer
3. Peers / Server issue progress messages to the Scheduler
5. Peers / Server acknowledge end of transfer
4. Peers / Server transfer encrypted media
1. Scheduler initiates Transfer between two peers: Clients, Simulator or Servers
SERVER TO CLIENT
CLIENT TO CLIENT

FIG. 10

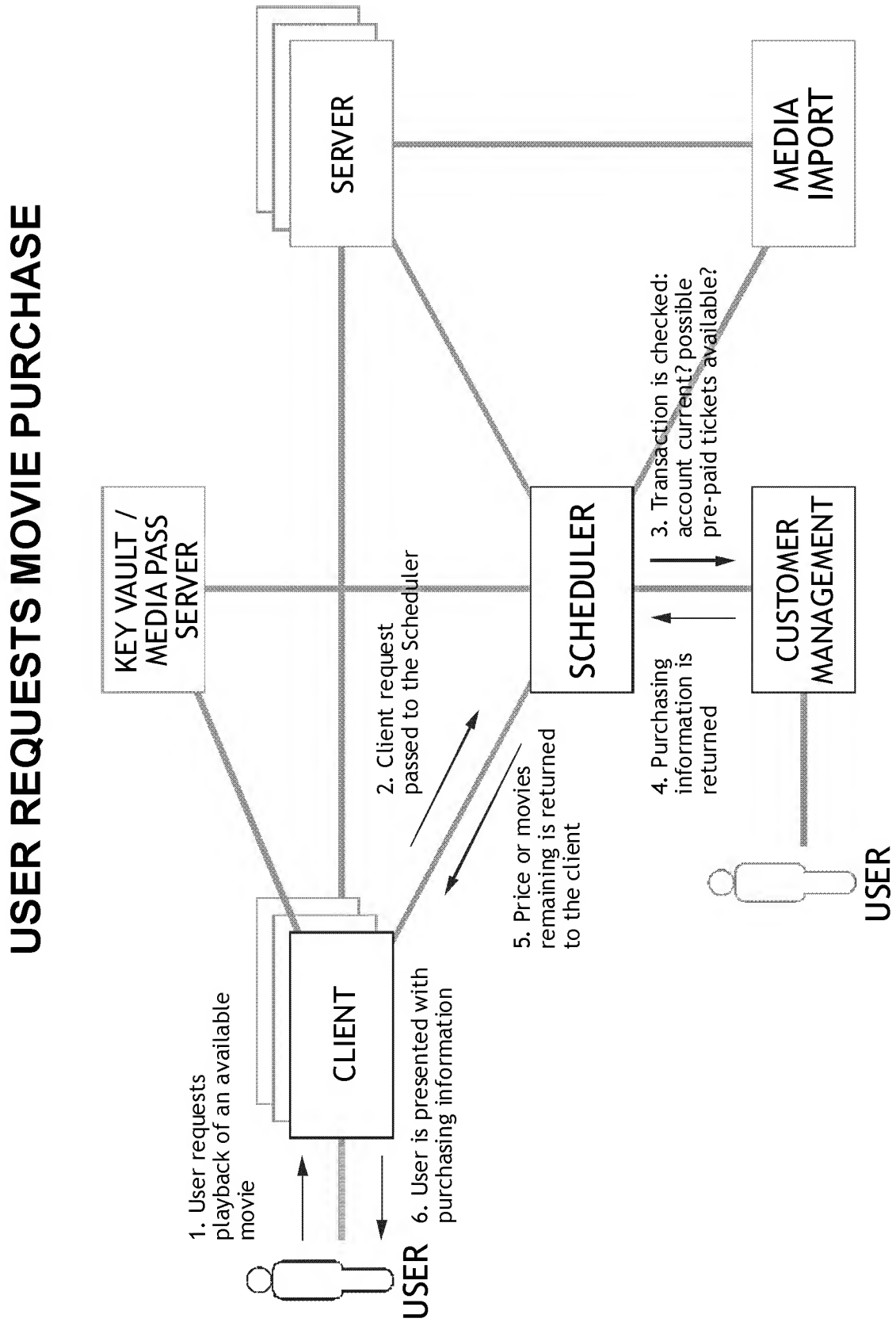

USER REQUESTS MOVIE PURCHASE
SERVER
MEDIA IMPORT
KEY VAULT / MEDIA PASS SERVER
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
USER
USER
1. User requests playback of an available movie
2. Client request passed to the Scheduler
3. Transaction is checked: account current? possible pre-paid tickets available?
4. Purchasing information is returned
5. Price or movies remaining is returned to the client
6. User is presented with purchasing information

FIG. 11

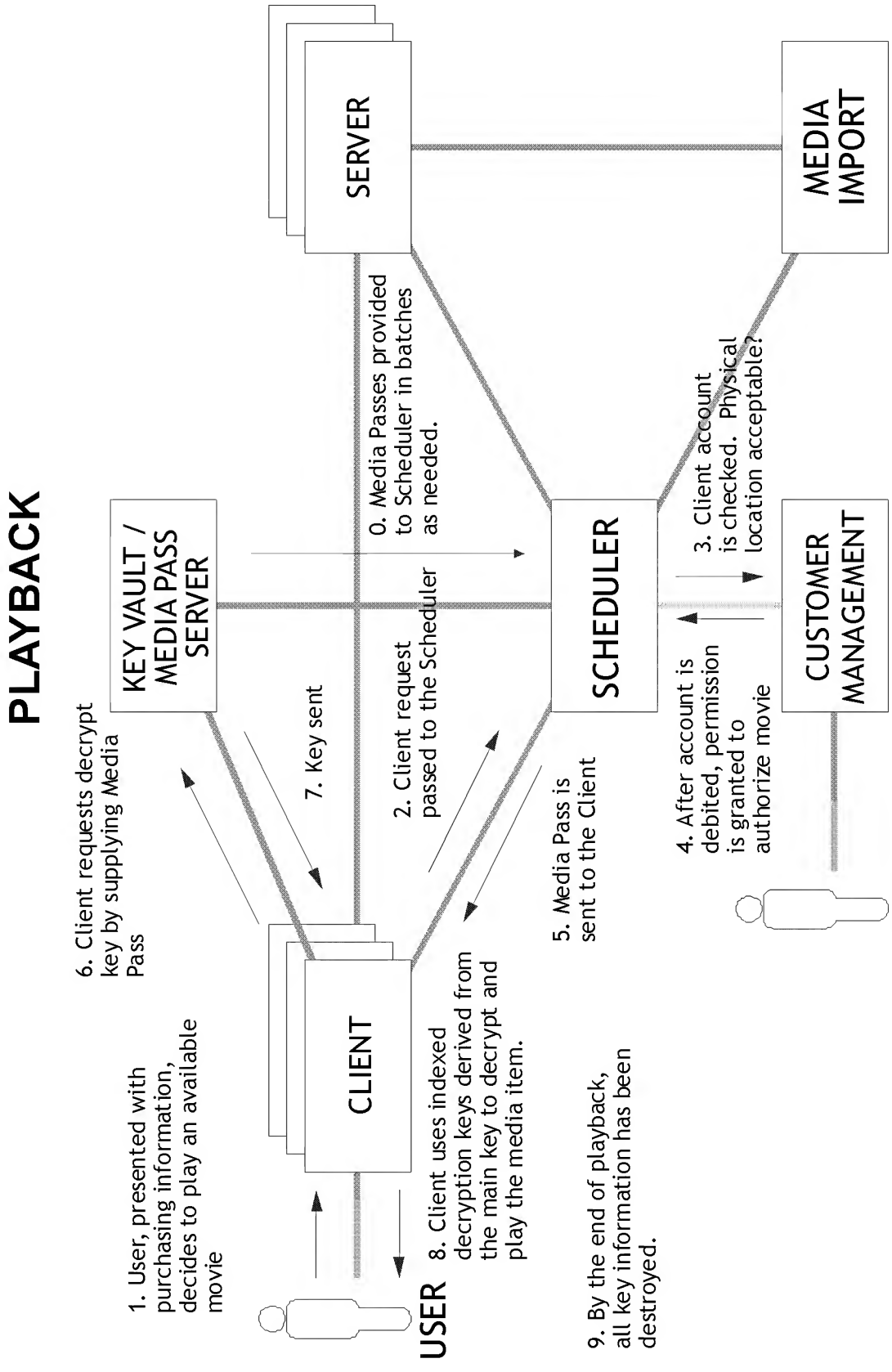
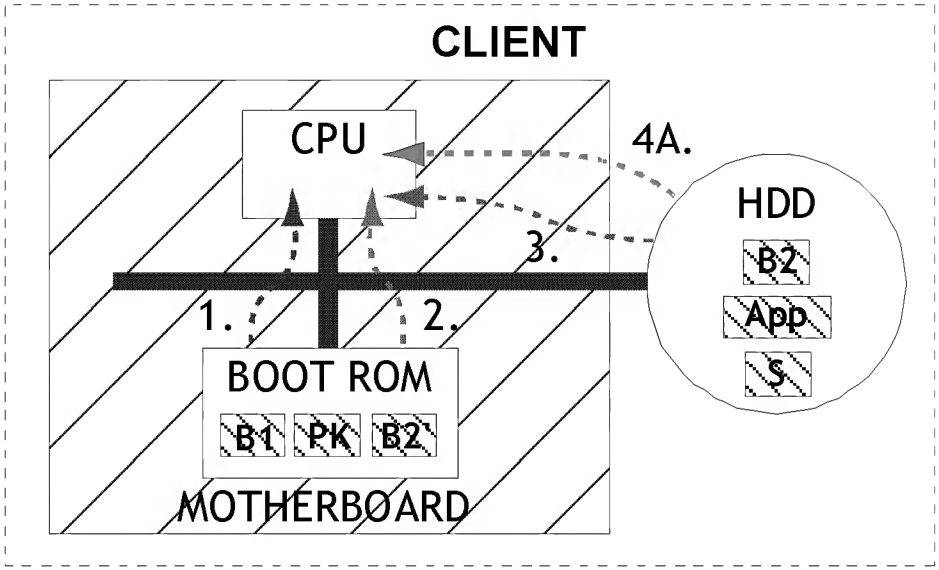

PLAYBACK
SERVER
MEDIA IMPORT
KEY VAULT / MEDIA PASS SERVER
SCHEDULER
CUSTOMER MANAGEMENT
CLIENT
USER
USER
0. Media Passes provided to Scheduler in batches as needed.
1. User, presented with purchasing information, decides to play an available movie
2. Client request passed to the Scheduler
3. Client account is checked. Physical location acceptable?
4. After account is debited, permission is granted to authorize movie
5. Media Pass is sent to the Client
6. Client requests decrypt key by supplying Media Pass
7. Key sent
8. Client uses indexed decryption keys derived from the main key to decrypt and play the media item.
9. By the end of playback, all key information has been destroyed.

FIG. 12

SECURE CLIENT - BOOT PROCESS

1. Initial Stage I Boot (**B1**) from **Boot ROM**

2. Public Key (**PK**) read from **BOOT ROM**



3. **HDD** Code Image (**B2** & **App**) signature (**S**) is verified with public key (**PK**)

4A. If signature is verified, Stage II boot (**B2**) continues from **HDD**, application execution (**App**) commences.

4B. If signature does not verify, fallback code (**B2'**) is used from **Boot ROM**. System will require service.

FIG. 13

SECURE CLIENT - PLAYBACK

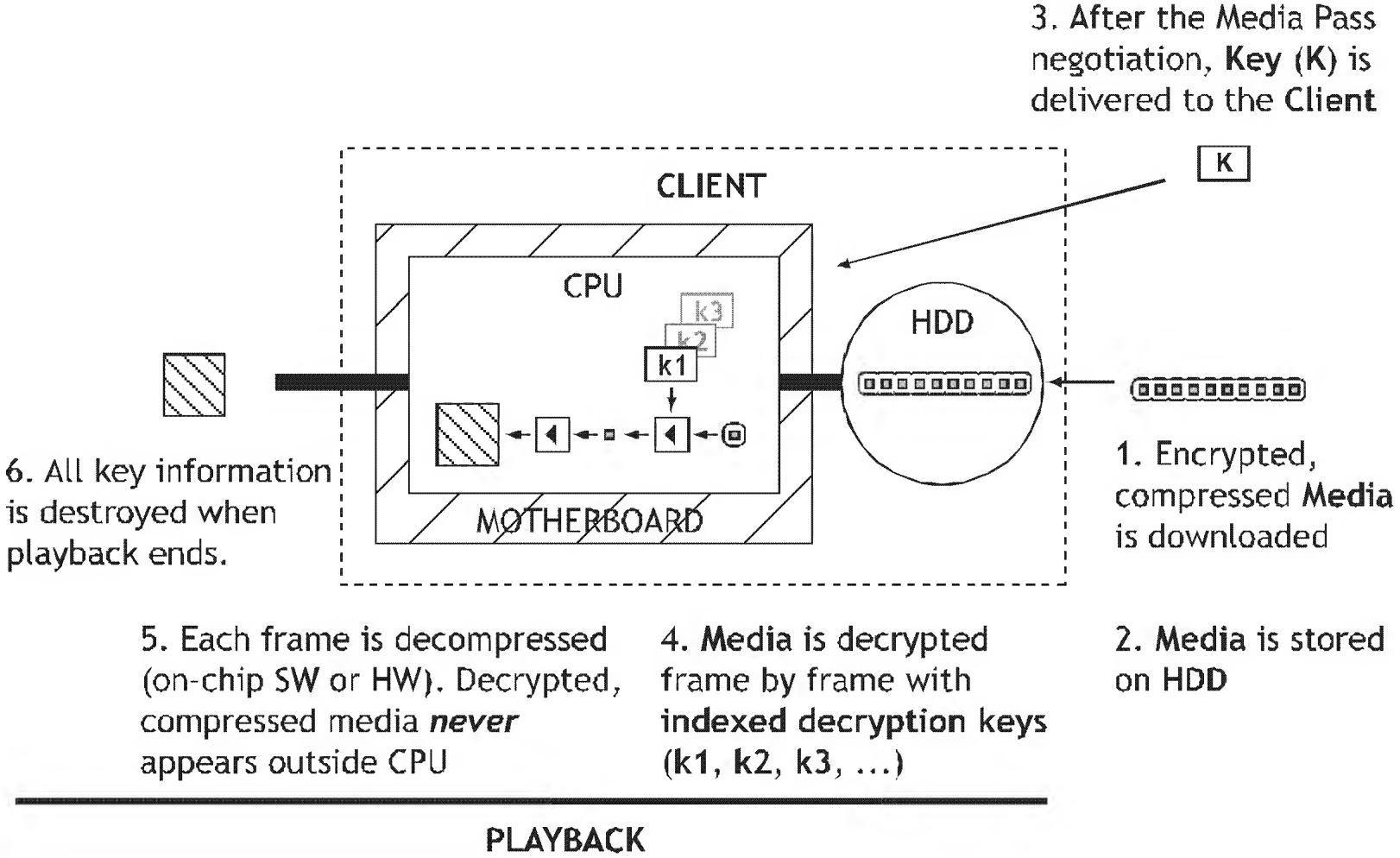


FIG. 14

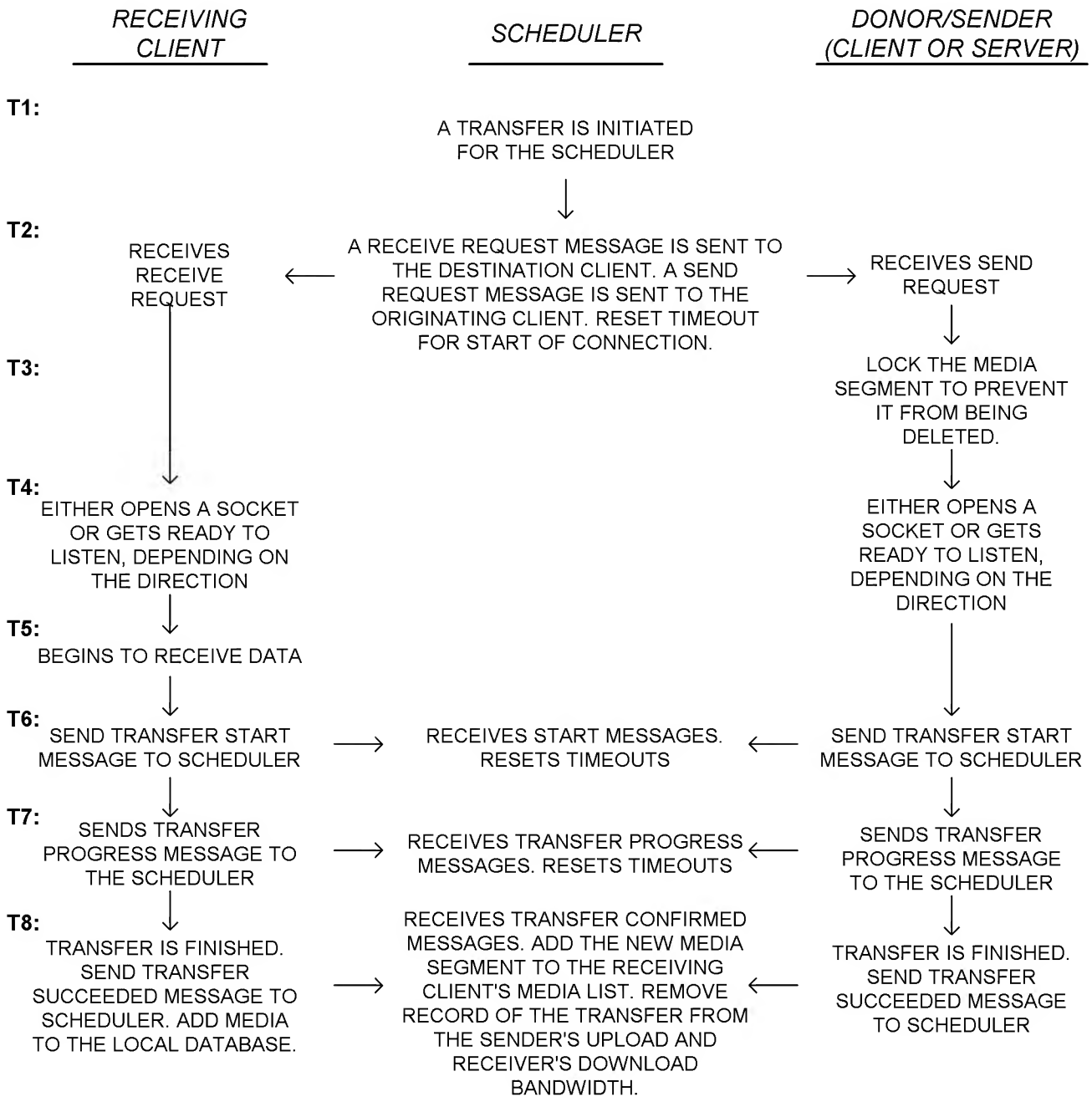

RECEIVING CLIENT
SCHEDULER
DONOR/SENDER (CLIENT OR SERVER)
T1:
A TRANSFER IS INITIATED FOR THE SCHEDULER
T2:
RECEIVES RECEIVE REQUEST
A RECEIVE REQUEST MESSAGE IS SENT TO THE DESTINATION CLIENT. A SEND REQUEST MESSAGE IS SENT TO THE ORIGINATING CLIENT. RESET TIMEOUT FOR START OF CONNECTION.
RECEIVES SEND REQUEST
T3:
LOCK THE MEDIA SEGMENT TO PREVENT IT FROM BEING DELETED.
T4:
EITHER OPENS A SOCKET OR GETS READY TO LISTEN, DEPENDING ON THE DIRECTION
EITHER OPENS A SOCKET OR GETS READY TO LISTEN, DEPENDING ON THE DIRECTION
T5:
BEGINS TO RECEIVE DATA
T6:
SEND TRANSFER START MESSAGE TO SCHEDULER
RECEIVES START MESSAGES. RESETS TIMEOUTS
SEND TRANSFER START MESSAGE TO SCHEDULER
T7:
SENDS TRANSFER PROGRESS MESSAGE TO THE SCHEDULER
RECEIVES TRANSFER PROGRESS MESSAGES. RESETS TIMEOUTS
SENDS TRANSFER PROGRESS MESSAGE TO THE SCHEDULER
T8:
TRANSFER IS FINISHED. SEND TRANSFER SUCCEEDED MESSAGE TO SCHEDULER. ADD MEDIA TO THE LOCAL DATABASE.
RECEIVES TRANSFER CONFIRMED MESSAGES. ADD THE NEW MEDIA SEGMENT TO THE RECEIVING CLIENT'S MEDIA LIST. REMOVE RECORD OF THE TRANSFER FROM THE SENDER'S UPLOAD AND RECEIVER'S DOWNLOAD BANDWIDTH.
TRANSFER IS FINISHED. SEND TRANSFER SUCCEEDED MESSAGE TO SCHEDULER

FIG. 15A

ONE TIMES OUT

	RECEIVING CLIENT	*SCHEDULER*	*DONOR/SENDER (CLIENT OR SERVER)*
T1:		TIMEOUT EXPIRES FOR ONE OF THE COMMUNICANTS	
T2:		↓ ADD STATUS JOB FOR THE CLIENT ON TO THE JOB QUEUE.	
T3:		↓ PLACE CLIENT ON STATUS HOLD (PREVENTING FURTHER JOB ALLOCATIONS)	

FIG. 15B

BOTH TIME OUT

	RECEIVING CLIENT	*SCHEDULER*	*DONOR/SENDER (CLIENT OR SERVER)*
T1:		TIMEOUT EXPIRES FOR **BOTH** SENDER AND RECEIVER	
T2:	MAY OR MAY NOT RECEIVE THE CANCEL REQUEST ←	↓ SEND TRANSFER CANCEL MESSAGES TO BOTH PARTIES	→ MAY OR MAY NOT RECEIVE THE CANCEL REQUEST
T3:		↓ RESET THE JOB SO IT MAY BE RE-ALLOCATED	

FIG. 15C

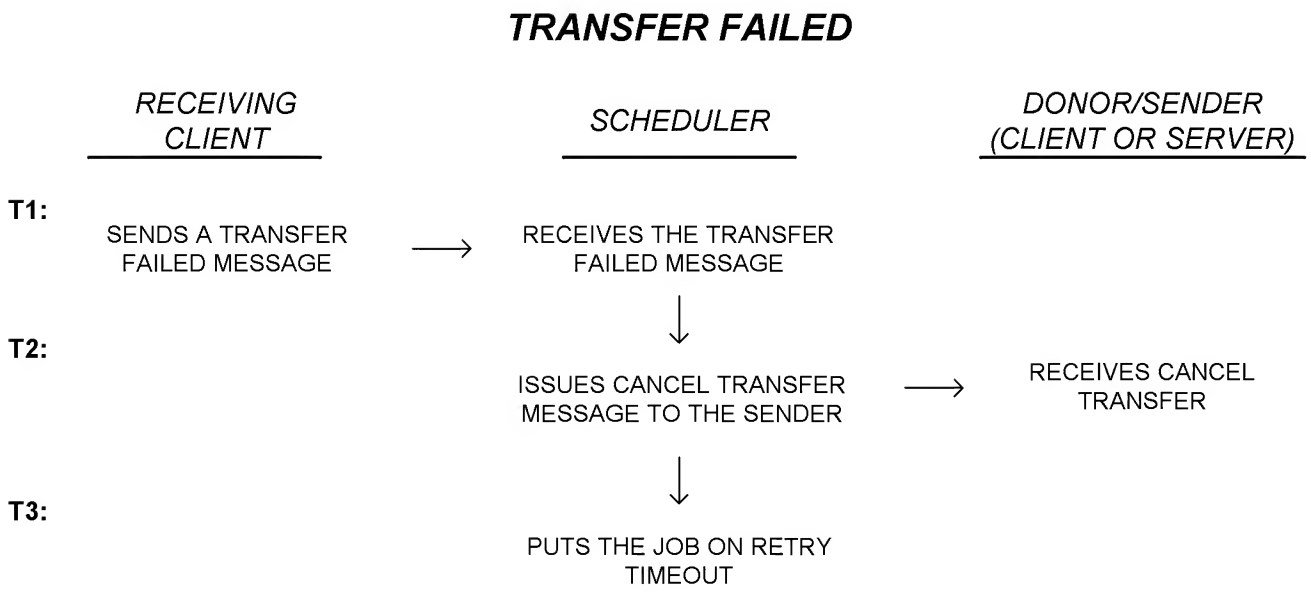

TRANSFER FAILED
RECEIVING CLIENT
SCHEDULER
DONOR/SENDER (CLIENT OR SERVER)
T1:
SENDS A TRANSFER FAILED MESSAGE
RECEIVES THE TRANSFER FAILED MESSAGE
T2:
ISSUES CANCEL TRANSFER MESSAGE TO THE SENDER
RECEIVES CANCEL TRANSFER
T3:
PUTS THE JOB ON RETRY TIMEOUT

FIG. 15D